

What is claimed is:

1. A network switch for switching transaction requests among a plurality of servers, comprising:

a routing component that parses transaction requests to locate selected fields and thereafter forwards at least portions of the parsed transaction requests to respective servers;

5 a cache that stores a plurality of objects corresponding to transaction requests associated with at least one of the plurality of servers, the objects comprising field information in at least one of the selected fields located by and received from the switch component;

10 a decryption processor that decrypts cipher text transaction requests and provides plain text transaction requests to the switch component; and

a cache processor that accesses the plurality of objects in response to communications received from the routing component.

2. The switch of Claim 1, further comprising

a digest generator that generates a digest value based on field information in at least one selected field of a transaction request, the digest corresponding to a location in the cache where at least one object corresponding to the transaction request is to be stored.

3. The switch of Claim 1, further comprising at least one traffic manager located between the flow switch and one or more clients.

4. The switch of Claim 1, wherein the selected fields include at least a universal resource locator and a cookie.

5. The switch of Claim 1, wherein the switch component includes a current connection table listing active connections between servers and clients.

6. The switch of Claim 1, wherein the plurality of objects in the cache include a plurality of content addresses for specific content and a corresponding hit counter showing a number of instances in a predetermined period of time in which specific content is requested by transaction requests.

7. A method for switching transaction requests among a plurality of servers, comprising:

receiving a transaction request corresponding to a first server, wherein the transaction request is in cipher text ;

5 decrypting the transaction request;

thereafter parsing the transaction request for one or more selected fields in the transaction request; and

based on field information in at least one of the one or more selected fields, selecting at least one of the first server and a cache server to serve the transaction request.

8. The method of Claim 7, further comprising:

determining a digest value based on field information in at least one of the selected fields; and

5 storing selected information corresponding to the transaction request at an address based on the digest value.

9. The method of Claim 8, wherein the transaction request is in hypertext transfer protocol and the field information used to determine the digest value is at least one of a universal resource locator and a cookie.

10. The method of Claim 8, wherein storing step comprises:  
 at least one of incrementing and decrementing a hit counter;  
 determining if the hit counter at least one of equals or exceeds a predetermined  
 threshold when the hit counter is incremented and at least one of equals or is less than the  
 5 predetermined threshold when the hit counter is decremented; and  
 updating a timestamp associated with the stored information.

11. The method of Claim 10, wherein, when the hit counter at least one of equals  
 or exceeds the predetermined threshold, the storing step comprises:  
 determining a plurality of network addresses associated with content referenced in  
 the transaction request.

12. The method of Claim 10, wherein, when the hit counter at least one of equals  
 or exceeds the predetermined threshold, directing the transaction request to a cache server  
 that is different from the first server.

13. The method of Claim 7, further comprising:  
 determining whether the transaction request is a part of an existing connection  
 between the first server and a client;  
 when the transaction request is part of an existing connection, forwarding the  
 5 transaction request to the first server; and

when the transaction request is not part of an existing connection and a hit counter at least one of equals or exceeds a predetermined value, forwarding the transaction to a cache server different from the first server.

14. The method of Claim 13, further comprising:

determining whether the transaction request can be served by the cache server; and

if the transaction request cannot be served by the cache server, forwarding the transaction request to the first server.

15. The method of Claim 7, further comprising:

when a hit counter at least one of equals or exceeds a predetermined threshold, transferring content associated with the transaction request from the first server to the cache server.

16. A system for switching transaction requests among a plurality of servers, comprising:

an input port for receiving a transaction request corresponding to a first server;

parsing means for parsing one or more selected fields in the transaction request;

5 decrypting means for decrypting the transaction request when the transaction request is in cipher text, wherein the decrypting means decrypts the transaction request before the parsing means parses the transaction request; and

based on at least one of the one or more selected fields, routing means for routing the transaction request to at least one of the first server and a cache server that is different from  
10 the first server.

17. The system of Claim 16, further comprising:

determining means for determining a digest value based on information in at least one of the selected fields; and

memory means for storing selected information corresponding to the transaction  
5 request at an address based on the digest value.

18. The system of Claim 17, wherein the transaction request is in hypertext transfer protocol and the information used to determine the digest value is at least one of a universal resource locator and a cookie.

19. The system of Claim 16, wherein memory means comprises:  
incrementing means for incrementing a hit counter;  
second determining means for determining if the hit counter at least one of equals  
or exceeds a predetermined threshold; and  
5 updating means for updating a timestamp associated with the stored information.

20. The system of Claim 19, wherein, when the hit counter at least one of equals  
or exceeds the predetermined threshold, third determining means for determining all network  
addresses associated with content referenced in the transaction request.

21. The system of Claim 19, wherein, when the hit counter at least one of equals  
or exceeds the predetermined threshold, the routing means routes the transaction request to  
the cache server.

22. The system of Claim 16, further comprising:  
second determining means for determining whether the transaction request is a part  
of an existing connection between the first server and a client;  
when the transaction request is part of an existing connection, the routing means  
5 routes the transaction request to the first server; and  
when the transaction request is not part of an existing connection and a hit counter  
at least one of equals or exceeds a predetermined value, the routing means routes the  
transaction to the cache server different from the first server.

23. The system of Claim 16, further comprising:

second determining means for determining whether the transaction request can be served by the cache server; and

if the transaction request cannot be served by the cache server, the routing means  
5 routes the transaction request to the first server.

24. The system of Claim 16, further comprising:

when a hit counter at least one of equals or exceeds a predetermined threshold,  
transferring means for transferring content associated with the transaction request from the  
first server to the cache server.



25. A network switch for switching transaction requests among a plurality of servers, comprising:

a cache that stores a plurality of objects corresponding to transaction requests associated with at least one of a plurality of servers, the objects comprising field information in at least one of selected fields in the transaction requests;

a cache processor that accesses the plurality of objects; and

a decryption processor that decrypts cipher text transaction requests and provides plain text transaction requests to the cache processor.

26. The switch of Claim 25, further comprising:

a digest generator that generates a digest value based on field information in at least one selected field of a transaction request, the digest value corresponding to a location in the cache where at least one object corresponding to the transaction request is to be stored, wherein the at least one object is stored at the cache location.

27. The switch of Claim 26, further comprising:

a routing component that parses the transaction requests to locate the selected fields and thereafter forwards at least portions of the parsed transaction requests to respective servers and wherein the cache processor accesses the plurality of objects in response to communications received from the routing component.

28. The switch of Claim 26, further comprising at least one traffic manager located between the network switch and one or more clients.

29. The flow switch of Claim 26, wherein the selected fields include at least a universal resource locator and a cookie.

30. The flow switch of Claim 27, wherein the routing component includes a current connection table listing active connections between servers and clients.

31. The flow switch of Claim 26, wherein the plurality of objects in the cache include a plurality of content addresses for specific content and a corresponding hit counter showing a number of instances in a predetermined period of time in which specific content is requested by transaction requests.

32. A system, comprising:

a plurality of information servers, each configured to provide information requested by a transaction request and stored by at least one of the information servers;

at least one cache server in communication with the plurality of information servers and configured to selectively store subsets of information of at least some of the information servers, the at least one cache server being configured to provide the information requested by the transaction request and to request the information from at least one of the information servers storing the information; and

a request switch connected to the information servers and the at least one cache server, the request switch being configured to direct the transaction request to an information server and not to the at least one cache server if the information requested by the transaction request is requested infrequently and to the at least one cache server if the information requested by the transaction request is requested frequently, wherein the request switch comprises a parser for identifying selected fields in the transaction request and a decryption processor for decrypting any encrypted transaction request before the transaction request is parsed by the parser.

33. The system of Claim 32, wherein the request switch comprises:

a digest generator configured to determine, based on at least one of the selected fields, a digest value corresponding to the transaction request; and

a cache configured to store request information associated with the transaction request at a location based on the digest value.

34. The system of Claim 33, wherein the digest value is determined by a hash function applied to at least a portion of a tag in the transaction request.

35. The system of Claim 34, wherein the tag is a universal resource locator or a cookie.

36. The system of Claim 33, wherein the stored request information comprises a hit counter to record the frequency of requests for the information requested by the transaction request.

37. The system of Claim 36, wherein the request switch determines whether the transaction request is to be directed to an information server or the at least one cache server by comparing the hit counter with a predetermined value for the hit counter.